

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-18 (Cancelled).

19. (New) A hinge for use in a micro-assembly employing electrical power supplied from an electrical power source, the hinge comprising:

a silicon-on-insulator wafer including a bottom substrate layer, a middle buried oxide layer and a single crystal silicon device layer;

a ribbon hinge structure formed in the device layer of the silicon-on-insulator wafer and having an upper outer surface, wherein the ribbon hinge structure is flexible and capable of movement out of the plane of the device layer; and

an electrical conductor material carried on at least a portion of the upper outer surface of the ribbon hinge structure.

20. (New) The hinge according to claim 19, wherein the electrical conductor material carried on at least a portion of the upper outer surface of the ribbon hinge structure is configured to pass an electrical signal.

21. (New) The hinge according to claim 19, wherein the ribbon hinge structure is configured with a mechanical integrity which permits application of a side-twisting mechanical torque sufficient to twist the ribbon hinge structure to 90° or more from an initial 0° twisted position.

22. (New) The hinge according to claim 19, wherein the ribbon hinge structure has at least one of a width or thickness which is less than at least one of a width or thickness of the micro-device.

23. (New) The hinge according to claim 19, wherein the ribbon

structure has at least one of (i) an isolation region formed within the ribbon structure, and within which is deposited the electrical conductor material, or (ii) an area of insulation material which has been deposited and then patterned on the ribbon structure, wherein conductors can then be placed on top of the insulation material.

24. (New) A micro-assembly comprising:

a micro-device formed on or in a device layer of a single crystal silicon substrate;

a ribbon structure formed on or in the device layer, the ribbon structure having been thinned to a thickness which is less than the thickness of the micro-device;

a connection interface providing a connection point between a first end of the micro-device and a first end of the ribbon structure; and

an electrical conductor material extending along the ribbon structure to operational association with the micro-device to pass an electrical signal to the micro-device.

25. (New) The micro-assembly according to claim 24 further including an anchor portion holding one end of the ribbon structure in a secure position.

26. (New) The micro-assembly according to claim 25, wherein the anchor portion is formed with an isolation groove, within which is deposited an isolation region of the anchor portion.

27. (New) The micro-assembly according to claim 24, wherein the micro-device includes an isolation region, formed within the micro-device, and in which the electrical conductor material is deposited.

28. (New) The micro-assembly according to claim 24 further including an isolation region formed within the ribbon structure, and within which is deposited the electrical conductor material.

29. (New) The micro-assembly according to claim 24, wherein the device layer is formed as part of a silicon-on-insulator wafer, including at least the device layer and a buried oxide layer.

30. (New) The micro-assembly according to claim 24, wherein the ribbon structure has at least one of a width or thickness which is less than at least one of a width or thickness of the micro-device.

31. (New) The micro-assembly according to claim 24, wherein the micro-device is fabricated from a silicon-on-insulator wafer which has an initial uniform device layer thickness.

32. (New) The micro-assembly according to claim 24, wherein the ribbon structure is configured with a mechanical integrity which permits application of a side-twisting mechanical torque to the micro-device sufficient to twist the micro-device to 90° or more from an initial 0° twisted position.

33. (New) The micro-assembly according to claim 24, wherein the ribbon structure is configured with a mechanical integrity which permits application of a lifting out-of-plane mechanical torque to lift the micro-device from 0° which is in a horizontal plane, to 90° or more out of the horizontal plane.

34. (New) The micro-assembly according to claim 24 further including an electronic device in operational connection to the electrical conductor material.

35. (New) The micro-assembly according to claim 24 further including a power source in connection with the electrical conductor material.

36. (New) The micro-assembly according to claim 24, wherein the electrical conductor material is located on an upper outer surface of the ribbon hinge structure.

37. (New) A micro-assembly comprising:

a micro-device formed on or in a device layer of a single crystal silicon substrate;

 a ribbon structure formed on or in the device layer, the ribbon structure having been thinned to a thickness which is less than the thickness of the micro-device;

 an electronic device in operative connection with the micro-device;

 an anchor portion formed on or in the device layer, and holding one end of the ribbon structure in a secure position, and configured to receive power from an external power source.

 a connection interface providing a connection point between a first end of the micro-device and a first end of the ribbon structure; and

 an electrical conductor material extending along the anchor portion and the ribbon structure to operable connection with the electronic device in operable connection with the micro-device.

38. (New) The micro-assembly according to claim 37 further including a power source in operative connection with the electrical conductive material of the anchor portion.